



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,900	03/10/2004	James J. La Clair	1133.022US1	3353
21186 7590 01/09/2008 SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER LIN, JERRY	
			ART UNIT	PAPER NUMBER
			1631	
			MAIL DATE	DELIVERY MODE
			01/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,900	Applicant(s) CLAIR, JAMES J. LA	
	Examiner Jerry Lin	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1, 11 and 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 20, 2007 has been entered.

Status of the Claims

Claims 2-10 and 12-20 are under examination.

Claims 1, 11, and 21-23 are withdrawn as being drawn to an unelected invention.

Specification

2. The use of the trademarks GENCHIP, MASSARRAY, etc. have been noted in this application. Trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. Please capitalize all trademarks.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112, 2nd Paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-10 and 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Instant claims 2 and 12 have been amended to recite "binary electrical, molecular or light data" that is transferred through a substrate. However, it is unclear if it is data that is transferred through the substrate, i.e. the properties of a spectrum of light, the voltage of an electrical signal, or the molecular weights of a type of molecule, or if it is the light signal itself or electrical signal itself, or the molecules that pass through a substrate. Clarification via clearer claim language is requested. For purposes of this office action light data has been interpreted as a light signal.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 2-10 and 12-20 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Keefe (US 2002/0004204 A1) in light of Berlien et al. (US 5850195).

The instant claims are drawn to a method of transferring a stream of digital data through a substrate, allowing the interaction of a molecule with the substrate, receiving streams of digital data transferred through a substrate, and decoding the identity of the molecule interacting with the substrate according to the alteration of the stream of digital data.

Regarding claims 2 and 12, O'Keefe teaches a method and device that includes creating at least one stream of light data and transferring it through a substrate (page 6, paragraph 0065; page 8, paragraphs 0082, 0083); allowing the interaction of molecules with the substrate (page 2, paragraph 0012); receiving streams of light data transferred through the substrate (page 10, paragraphs 0106-0107); and determining the identity of the molecule (page 2, paragraph 0012; page 10, paragraphs 0106-0107).

Regarding claim 3, O'Keefe teaches altering the stream according to a programmable function (page 8, paragraphs 0086-0088).

Regarding claims 4, 5, 13, and 14, O'Keefe teaches using a laser beam that is polarized (page 8, paragraphs 0082-0083).

Regarding claim 6 and 15, O'Keefe teaches creating a digitally encoded molecular current (page 10, paragraphs 0106-0107).

Regarding claims 7, 16, and 17, O'Keefe teaches generating digital electronic signals by gating electron flow over a two or three dimensional space (page 10, paragraph 0107) as taught by Berlien et al. (US 5850195) (please see Berlien et al., throughout).

Regarding claim 8-10 and 18-20, O'Keefe teaches controlling heat to add molecules in a two-dimensional surface or a three dimensional element (page 10, paragraphs 0108-0110; page 6, paragraphs 0062-0064).

Response to Arguments

7. Applicant have responded to this rejection by stating that O'Keefe requires additional materials or devices that are not required by the claimed invention. While the examiner does agree that O'Keefe requires additional materials or devices, the instant claims are written with the open language of "comprising" and do not foreclose the use of other devices or additional steps. Although, the instant claims may include embodiments that eliminate the need for several pieces of equipment, the instant claims also include embodiments that use several pieces of equipment, in particular using a light to digital signal converter. Thus, the examiner maintains that O'Keefe anticipates particular embodiments of the claimed invention.

Applicants also respond this rejection by stating that binary data does not appear in the reference. However, the instant claims have been amended to recite "binary electrical, molecular, or light data." This limitation has been interpreted as binary electrical data or molecular data or light data. The instant claims do not require the limitation of binary light data. The O'Keefe reference teaches using a light signal that is passed through the substrate. Thus, O'Keefe teaches passing light data though a substrate.

Applicants also state that O'Keefe does not disclose creating a stream of binary light data, transferring the light data through a substrate, and receiving a stream of binary light data through the substrate. However, the instant claims have been amended to recite "binary electrical, molecular, or light data." This limitation has been interpreted as binary electrical data or molecular data or light data. The limitation of binary light data is not required in the claims as written. As stated above, O'Keefe discloses using light data (page 6, paragraph 0065; page 8, paragraph 0082, 0083), transferring the light data through a substrate (page 10, paragraphs 0106-0107), and receiving this light data (page 10, paragraphs 0106-0107).

This rejection is maintained from the previous office action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561. The examiner can normally be reached on 10:00-6:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie A. Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/797,900
Art Unit: 1631

Page 7

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JL/

/Marjorie A. Moran/
SPE, AU 1631
1/7/2008